In the Claims

The following Listing of Claims replaces all prior versions in the application:

LISTING OF CLAIMS

1.   (Currently Amended) A method for analyzing a liquid sample by injecting the ~~latter~~ liquid sample in a reaction loop, comprising a transparent pipe with a length between about 0.5 cm and about 10 cm, coupled with illumination means, comprising a light emitting diode, and detection means, comprising a diode array aligned on the reaction loop, to record levels of light representative of the characteristics of the sample, said method comprising the following steps:

-      filling the reaction loop with a minimum volume of the sample ~~to be analyzed~~, through a first input of a T-shaped branch and its output, said output being connected to said reaction loop, ~~this reaction loop forming a transparent pipe with a length between about 0.5 cm and about 10 cm, with which detection means are coupled,~~

-      injecting at least one fixed volume of at least one reagent containing a dye into the reaction loop via a second input of the T-shaped branch and its output in using a push-syringe actuated at a flow rate of about 10 to about 1,000 μL min^{-1} to obtain a mixture of the sample with the reagent(s), such that a concentration gradient is established in the reaction loop establishing at least one color change point,

-      illuminating the transparent pipe with the illumination means,

-      filtering the light transmitted through the transparent pipe, so that the position of the at least one color change point is determined,

-      recording levels of light transmitted through said transparent pipe by the detection means after filtering,

-      calibrating the response,

-      ~~thereby~~ revealing the characteristics of the sample, and

-      discharging the reagents located in the reaction loop.

2.   (Original) The method according to claim 1, wherein a concentration gradient is detected in the reaction loop.

3.   (Original) The method according to claim 1, wherein the reaction loop is a transparent capillary or a microfluidic channel.

4.   (Original) The method according to claim 1, wherein the discharge of the reagents located in the reaction loop is performed by means of the remaining sample.

5.   (Original) The method according to claim 1, wherein the discharge of the reagents located in the reaction loop is performed by means of the next sample.

6.   (Original) The method according to claim 1, wherein the sample flux is not interrupted, which allows continuous analysis.

7.   (Original) The method according to claim 1, wherein fixed volumes of reagents are successively injected during predefined time intervals.

8.   (Previously Presented) The method according to claim 7, wherein a series of pulses of reagents is produced at flow rates of the order to 10 to 1,000 μL min^{-1} followed by a waiting time.

9.   (Previously Presented) The method according to claim 1, wherein linear detection is performed along the reaction loop so that it is possible to obtain a space and time plot of the reactions in the set, reaction loop and detection means.

10.   (Previously Presented) The method according to claim 1, wherein a point detection is achieved in a location of the reaction loop so that it is possible to obtain a time plot of the reactions in a location of the set: reaction loop and detection means.

11.   (Currently Amended) The method according to claim 10, wherein the diode array comprises a point sensor is used, and wherein the point sensor is configured to be movable along the reaction loop.

12.   (Currently Amended) A system for analyzing a liquid sample comprising:

-       a T-shaped branch with a first input suitable for introducing a sample, a second input suitable for introducing a reagent, and an output,

-       a reaction loop linked to the ~~outlet~~ output of the T-shaped branch, suitable for allowing the admixture between a sample introduced through the first input of the T-shaped branch and at least one reagent containing a dye introduced through the second input of the T-shaped branch, wherein the reaction loop consists of a transparent pipe with a length between about 0.5 cm and about 10 cm,

-       a push-syringe linked to the second input of the T-shaped branch,

-       illumination means comprising a light emitting diode, with which ~~this~~ the transparent pipe may be illuminated,

-       a filter, and

-       detection means comprising a diode array aligned on the reaction loop, to record levels of light transmitted through said loop after filtering, thereby revealing the characteristics of the sample.

13.   (Original) The system according to claim 12, wherein the transparent pipe is a transparent capillary or a microfluidic channel.

14.   (Canceled)

15.   (Canceled)

16.   (Currently Amended) The system according to claim 12, further comprising a peristaltic pump allowing introduction of the sample.

17.   (Currently Amended) The system according to claim 12, further comprising a microvalve positioned upstream from the ~~point of introduction of the sample into the reaction loop~~ first input.

18.   (Canceled)